ecomax™ by HOBART

GLASS- AND DISHWASHERS

ECOMAX 602/612

INSTALLATION AND OPERATION INSTRUCTIONS

(original instructions)

Starting from Serial No.:

8657 3000

REV. 09.05.2011

IMPORTANT NOTES

USE IN ACCORDANCE WITH REGULATIONS

The machine is technical work equipment for express use in the work place.

The machine is exclusively to be used to wash ware such as plates, cups, glasses, cutlery, trays etc.

Do not use for electrically heated cooking and heat conservation appliances.

SAFETY:

Never hose down the machine.

The “Attention” symbol is shown beside instructions that are essential for the safe operation of the machine.
Please read these passages thoroughly.

LIABILITY:

Installations and repairs which are carried out by non-authorized technicians or the use of other than original spare parts, and any technical alterations to the machine, may affect the warranty set out in the standard conditions of sale.

MACHINE NOISE LEVEL:

The machine noise level is < 70 dB (A).

GENERAL INFORMATION ON WASHING GLASSES AND CUTLERY:

The local supply water quality has a major impact on the wash and rinse result. A high content of minerals which are dissolved in the water during the drying process may become visible in the form of spots and streaks.

Authorised service personnel can determine the content of minerals by measuring the electrical conductivity. Values of less than 80 Microsiemens/cm indicate a low content of minerals. Higher contents need to be reduced below the critical level by demineralising the water using specific demineralisation cartridges or a reverse osmosis system.

Please contact your authorised service partner for support.

We recommend the use of specific glass racks. These racks hold the glasses in slightly inclined positions – this will improve the rinse efficiency.

To avoid unpleasant smelling glasses, specific chlorine-free detergent for glass washing should be used.

Before washing new glasses the first time with a commercial glass washer, intensive basic cleaning is mandatory to reduce the greasy film which is on most glasses for protection during production. If not, water drainage is impaired and streaks and spots may remain on glasses.

We recommend carrying out the basic cleaning manually in a sink (using gloves and a brush for cleaning) with a much higher chemical concentration of detergent (minimum 10 g of detergent per liter).

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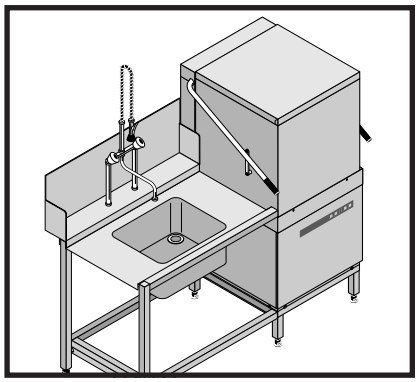
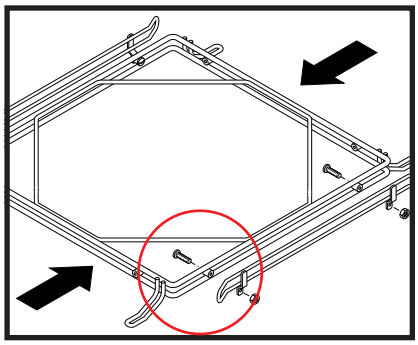
1. INSTALLATION



1.1. LOCATION

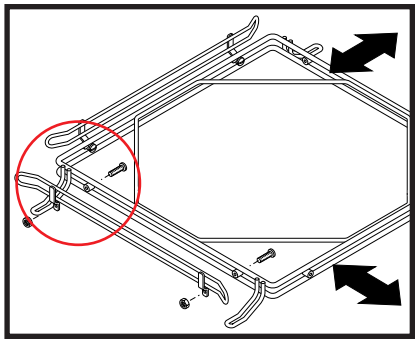
– Rear wall clearance not required.
– For corner installation lateral clearance of 107 mm is required.
– For free-standing installation the optional rear panel has to be installed.
– Level machine by turning the feet.
– Distribute machine weight equally onto all feet



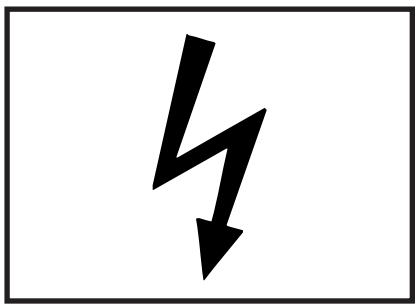
1.2. CONVERTING TO CORNER OPERATION

Depending on direction of operation, the guide rails may need to be adjusted to suit the direction of operation (see arrows).

– Unscrew the guide rail in front.



– Refit guide rail at right angle according to the direction of operation.



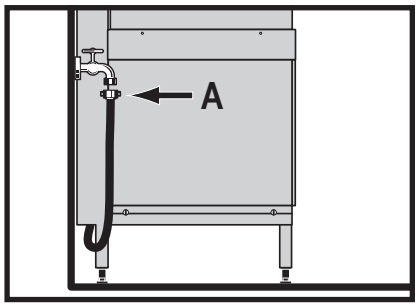
1.3. ELECTRICAL CONNECTION

Must be carried out by an authorized technician according to the local and national codes.

For Australia: in accordance with AS/NZS3500.1

– The electrical supply shall comply with the name-plate data.
– Line fuses and cable cross section shall comply with the requirements.

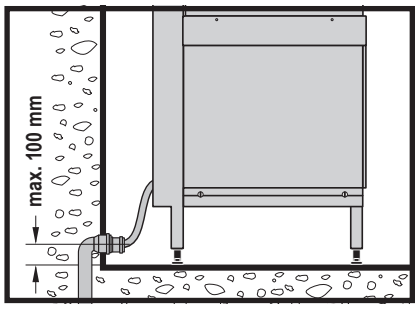
NOTE: **A cut-off device shall be provided to connect the supply cord (isolating switch or accessible plug device).According to EN 60 335 the appliance must be connected to an equipotential conductor. The connecting screw (▽) is located beside the cable inlet.**

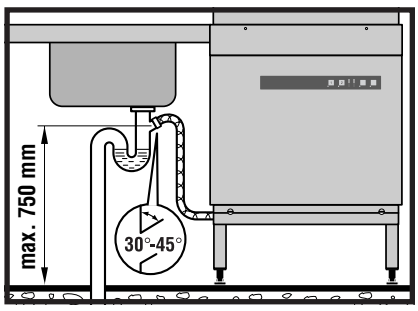


1.4. WATER CONNECTION

Must be carried out by an authorized technician according to the national and local codes.
The machine must be operated with potable water. For water with an extremely high mineral content an external demineralisation is strongly recommended

– Connect to warm water, if possible (max. 60°C).
– Water hardness:
  • Machines without softener: max. 3,75° Clark = 0.5 mmol/l.
  • Machines with softener: max. 37.5° Clark = 5.3 mmol/l.
– Line flow pressure
  • **Ecomax 602-10:**
    Line flow pressure:2 – 6 bar.
    < 2 bar: provide a rinse pumpe at site.
    > 6 bar: pressure reducer valve necessary.
  • **Other models:**
    Line flow pressure 0,5 – 10 bar.
    > 10 bar: pressure reducer valve necessary.
– Connect the union nut “A” (3/4”) of the water supply hose to the site shut off valve.
– Do not kink or cut the supply hose. If an extended supply hose is required, use one of the same specifications as the original.





1.5. DRAIN CONNECTION

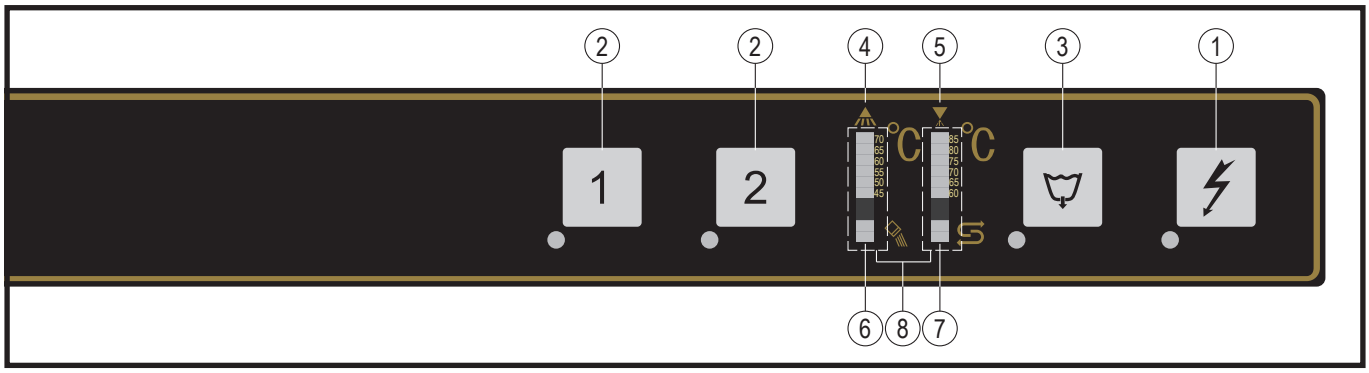
Machine without drain pump:

– Ensure gravity drain.
– For these machine types, a floor drain is mandatory as the drain hose exits the machine at approx. 100 mm above floor level. Otherwise, residual water may remain in the tank and hose.
– Do not kink drain hose.

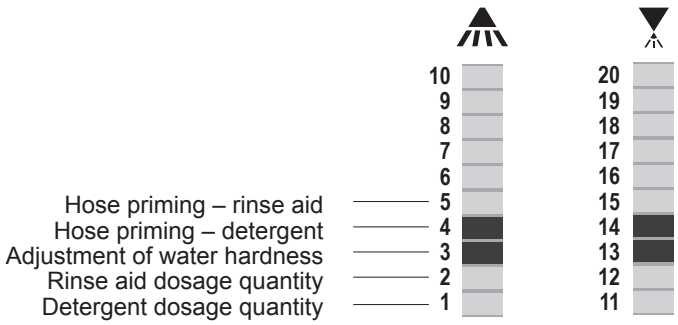
Machine with drain pump:

– Connection between machine and site drain must not exceed max. height of 0.65 m.
– Do not place the drain hose loosely on the floor (the hose could berubbed through). Fix it at site!
– Do not kink the drain hose.

2. CONTROLS



①	Machine ON/STOP button	Pushing this button switches the machine on. The LED lights up – flashing = Machine is filling and heating. – permanent = Machine is ready. In case of operating error or faults, it is possible to switch-off the machine immediately without the drain cycle, by pushing this button. After switch off, the machine is not voltage free!
②	Program buttons	By pushing these buttons, it is possible to select between short cycle (1) and standard cycle (2). The appropriate LED lights up.
③	Drain/OFF button	By pushing and holding (3 seconds) this button, the self-cleaning cycle starts. At the end of the cycle, the machine switches off automatically. Machines with optional drain pump will drain the tank automatically. After switch off, the machine is not voltage free!
④	Temperature indication Wash	
⑤	Temperature indication Rinse	
⑥	Salt required	Indicating the need for regeneration salt to be added. (Only with built-in softener.)
⑦	Regeneration indicator	Softener regeneration active.The cycle running time can extend.
⑧	Indicator for setting functions	The individual LEDs are also used for various settings and special functions:

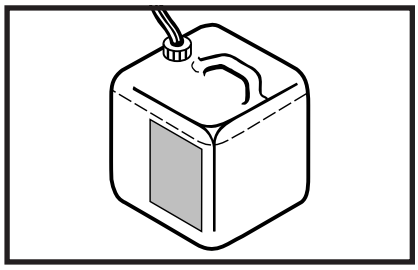


Left display: The LEDs 1 to 6 illuminate according to the selected function.

Right display: Indicates the adjusted value

Attention:
The maximum suction head of the dosing pumps is 1.5 m. Do not confuse the containers
Use only detergent and rinse aid for commercial applications.
Please pay attention to the manufacturer's safety instructions.

NOTE: **Before changing to a different product type (even from the same supplier), the suction hoses must be rinsed thoroughly with fresh water (procedure as described under section 3.3.). Otherwise, the mixing of different types of chemicals will cause crystallization, which may result in a malfunction of the dosing pump.**



3.1. DETERGENT

– Do not use any acidic detergent products with the optional built-in detergent pump! (The ph-value has to be higher than 7.)

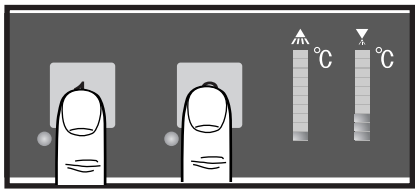
– Place the suction hose into the external detergent container. Fill the suction hose according to chapter section 3.3.

3.2. RINSE AID

– Place the suction hose (blue marking) into the external rinse aid container. Fill the suction hose according to chapter section 3.3.

3.3. PRIMING THE SUCTION HOSES

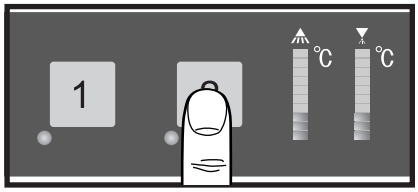
ATTENTION:
The machine has to be switched off.



– Open the hood.

– Push Program buttons ② simultaneously.

- LEDs light up.
- In display ⑧, the LEDs 1 and 11–20 illuminate (dependent on basic setting).



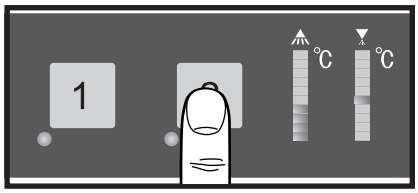
– Push Program button "1" repeatedly, until the display LED 3 lights up.

– Close the hood.

– Push Program button "1" again.

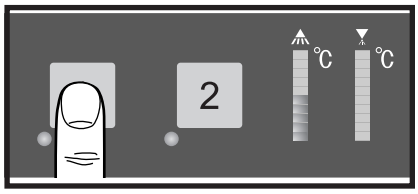
- In display ⑧ LED 4 lights up.

3. START-UP



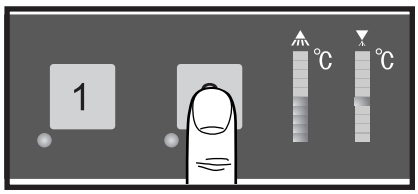
3.3.1. DETERGENT SUCTION HOSE

– Only with built in detergent pump.
– Push Program buttons ② simultaneously.
  • Hose will be filled.
  • moving light display ⑧ LEDs 15–18
– Releasing the button interrupts hose priming.



3.3.2. RINSE AID SUCTION HOSE

– Push Program button “1” again.
  • In display ⑧ LED 5 lights up.

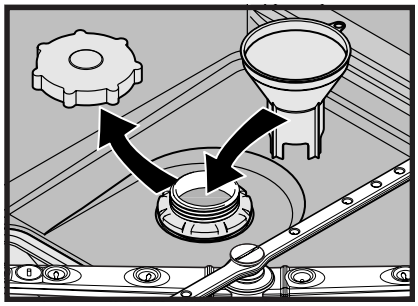


– Push and hold Program button “2”.
  • hose will be filled.
  • moving light display ⑧, LEDs 15–18
– Releasing the button interrupts hose priming.
– Termination of hose priming: Open hood or do not press any button for 30 seconds.

3.4. SOFTENER (OPTIONAL)

NOTE: **For the first run, the softener has to be filled with regeneration salt and potable water.**

Attention:
Filling the salt reservoir with cleaning agent will damage the water softener.



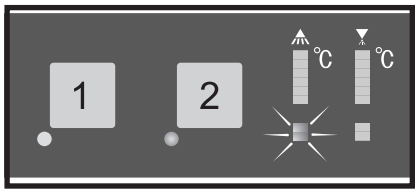
– Open the hood.

– Unscrew the softener lid and fill the softener with 1.5 kg of “Granular regeneration salt” (do not use salt tablets).

– Fill up the softener with potable water (only at the first run). Clean seal and rim of softener lid carefully, before closing the lid.

– Close lid and tighten.

Attention:
In order to prevent corrosion it is necessary to remove any salt residues from tank bottom. After manual removal, start a wash cycle to completely eliminate any remaining salt residue.

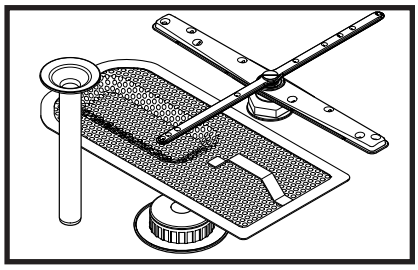


– Adjust the water hardness according to section 6.3. !

When the Salt indicator ⑥ flashes during operation, the softener has to be refilled with regeneration salt.

There will be a slight delay before salt light goes out after refill.

4. OPERATION

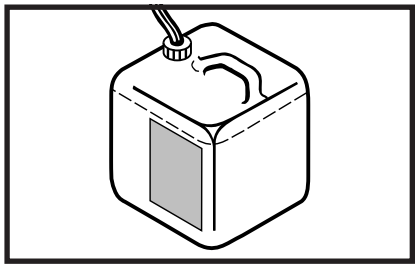


4.1. PREPARATION

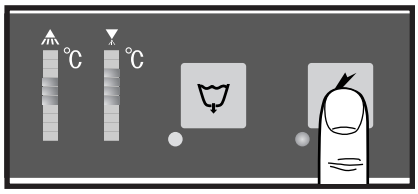
– Check correct position of wash/rinse arms, strainer and overflow pipe.

– Open shut-off valve.

– Switch on main switch or put the plug in.



– Check level of detergent and rinse aid containers.

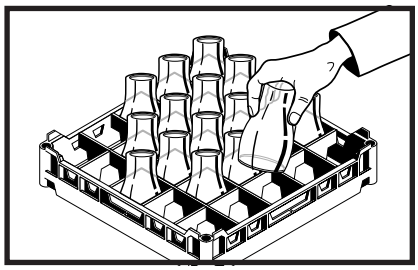


– Close hood and push the ON button ①

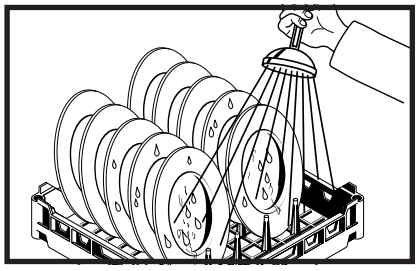
  • tank will be filled.

  • The button LED flashes during fill and heating cycle. This process can take several minutes.

  • When the LED changes to steady burning light, machine is ready for operation.



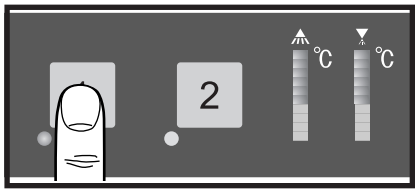
– Place glasses and cups face downwards into the rack.



– Remove any food debris before loading plates into rack.

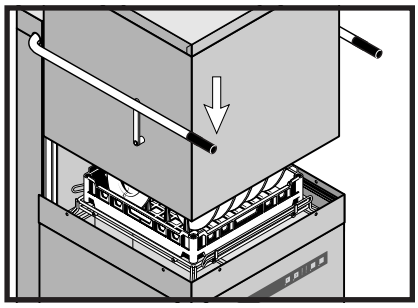
– Spray off greasy food leftovers.

4.2. RUN

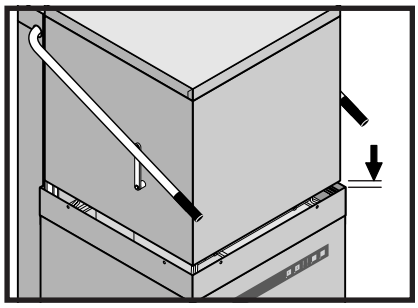


– Preselect the desired program by pressing the program button 1 or 2

Button "1" = Short cycle
Button "2" = Standard cycle

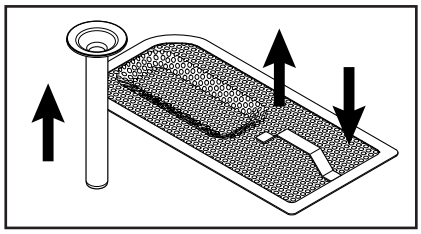


– Put rack into the machine and close the hood.
  - The Program button LED flashes, wash cycle is running.
  - As soon as the LED changes to steady light, the wash cycle is finished.
– Open the hood and take out rack.
– Allow dishes to dry for 1 minute approx.



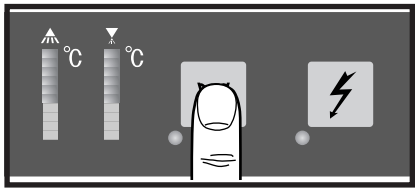
– To avoid heat loss, lower hood to “Stand By” position between wash cycles.

5. SWITCH-OFF AND CLEANING THE MACHINE



5.1. SWITCH-OFF

– Take out tank strainer and overflow pipe.
– Clean strainer and put back into place.
– Close the hood.

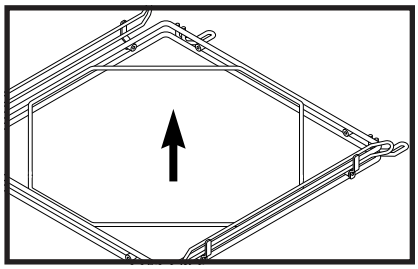


– Push and hold (min. 3 seconds) the Drain button ③
  • LED lights up.

  The self-cleaning cycle will be started and the machine interior is cleaned automatically.

  NOTE: A final inspection is recommended to remove any food debris.

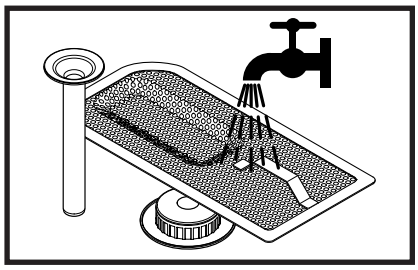
  • Machines with optional drain pump will drain the tank automatically.
  • At the end of program, the machine switches off automatically.
– Switch off main switch or unplug. Close the shut-off valve.



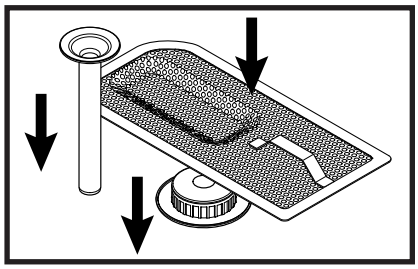
5.2. CLEANING (DAILY)

Attention:
To clean the machine do not use any chloric, acidic or abrasive products and no metallic brushs.

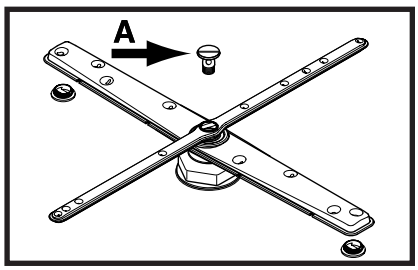
– Open hood and take out rack guide.



– Take out strainer and overflow pipe and flush. Please ensure that food debris does not enter pump intake!
– Clean interior of the machine.



– Put strainers and overflow pipe back into place.
– Put rack guide back into place.
– Leave hood open for ventilation.

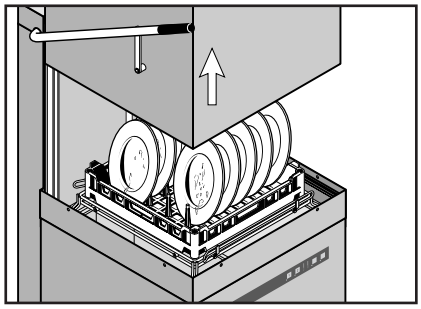


5.3. CLEANING (WEEKLY)

– Take out rack guide.
– Loosen the retaining screws (A) by turning them counter-clockwise.
– Take out and clean wash and rinse arms.
– Put all parts back into place

6. SETTINGS

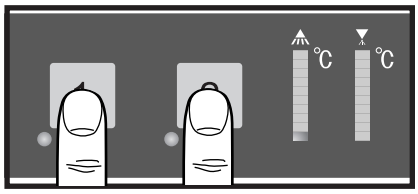
ATTENTION:
The machine has to be switched off.



– Open the hood.

If the hood will be closed or if no button is pressed for 30 seconds,the indicator automatically switches off and the new settings will be saved. Therefore the setting procedure can be interrupted at any time.

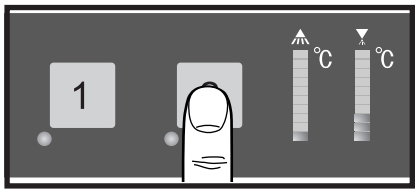
6.1. ADJUSTMENT OF DETERGENT DOSAGE QUANTITY



Only with built in detergent pump.

– Push Program buttons ② simultaneously.
  - LEDs light up.
  - In the left display the bottom LED (1) is illuminated.
  - The right display indicates the adjusted value of the detergent dosage time: One LED corresponds to approx. 3.5 s ≈ 1 g/l

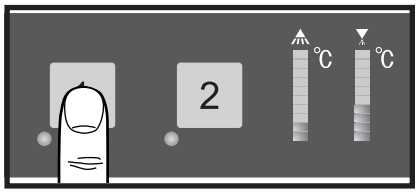
– Pre-adjusted value: “11–13” = 10.5 s ≈ 3 g/l.



– To adjust the detergent dosage time, push Program button “2” repeatedly, until the desired value (0–35 s ≈ 0–10 g/l) is indicated.

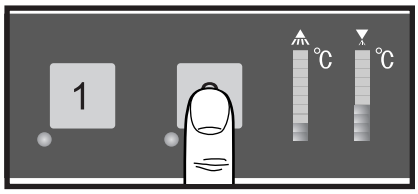
Adjustment should be done in accordance with chemical suppliers recommendations.

6.2. ADJUSTMENT OF RINSE AID DOSAGE QUANTITY



– Push Program button “1”.
  - In display ⑧ LEDs 1 and 2 illuminate.
  - the right display indicates the adjusted value of the rinse aid dosage time: One LED corresponds to approx. 2.5 s ≈ 0,1 g/l.

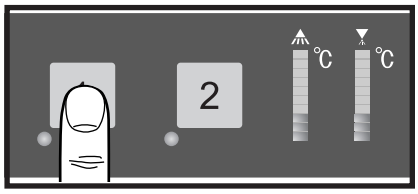
– Pre-adjusted value: “11–13” = 7.5 s ≈ 0,3 g/l.



– To adjust the rinse aid dosage time, push Program button “2” repeatedly, until the desired value (0–25 s ≈ 0–1.0 g/l) is indicated

Adjustment should be done in accordance with chemical suppliers recommendations.

6.3. ADJUSTMENT OF WATER HARDNESS

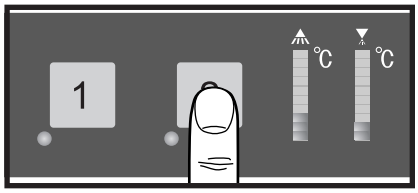


– With optional softener only.

– To adjust the softener to the local water hardness (obtain details from local water authorit):

– Push Program button “1”.

LEDs 1 to 3 illuminate in the left display

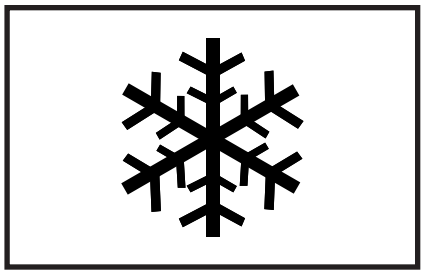


– Push Program button “2” repeatedly, until the LEDs in display ⑧ correspond to the required value.

LED "on"	Range	Water hardness*
11	H01	up to 7°eh
11 and 12	H02	8 to 14°eh
11 to 13	H03	15 to 21°eh
11 to 14	H04	22 to 30°eh

*(°eh = Clark)

7. FROST PREVENTION



This should be carried out by service personnel!

In case of frost or longer operation pauses (e.g. for seasonal operations) the machine must be completely drained.

Reset for operation according to section 3.

8. MAINTENANCE

In order to maintain the warranty, as well as a permanently safe, efficient, and trouble-free operation of the machine, the required maintenance must be carried out by authorized service technicians.

For this reason, we recommend the conclusion of an inspection and maintenance contract which assures qualified support by specially trained service technicians according to a time scheduled based on the operating conditions.

9. TROUBLESHOOTING GUIDE

9.1. POOR WASH RESULT

TYPE OF FAILURE	POSSIBLE CAUSE	REMEDY
Washware are not clean.	Wash arms stiff (you should be able to turn them easily by hand).	Take out wash arms and clean them thoroughly. Check water outlet from machine to wash arms is clear.
	Wash arm nozzles are clogged (visual check).	Take out wash arm, remove cleaning cap and rinse the wash arm thoroughly until soil is removed. Replace correctly.
	Rinse arm nozzles are clogged (possibly by lime deposit)	Remove rinse arms and decalcify them in separate container.
	Detergent concentration is too low or too high.	Check setting of detergent concentration. See also operating instructions section 6.
	Coarse strainer soiled.	Take out strainer, empty and clean it.
	Wrong program selected for heavily soiled washware.	Select program with longer wash cycle.
Dishes or glasses do not dry properly.	Rinse aid concentration too low.	Increase concentration. See also operating instructions point 6.2.
	Items to be washed still greasy.	Detergent concentration too low: increase (see instructions). Check if detergent is appropriate. If not choose a stronger one. Drain soiled water and refill machine. Check pre-scrapping procedure.
	Rack is not suitable for type of washware.	Use appropriate racks to create a sloping position which allows water to drain away from cavities.
	Washware stays too long in the machine at the end of program.	Take out washware as soon as cycle is completed to enable the ware to dry.
Stripes and staines on dishes or glasses.	Rinse aid concentration too high.	Reduce quantity (see instructions).
	Hard water or high mineral content.	Check water quality. Obtain details from local water authority. Recommended values: Ideal degree of hardness is 4° Clark. Ideal conductivity value for glasses is max. 150 µS/cm and for dishes max. 400 µS/cm.
	Rack is not suitable for type of washware.	Use appropriate racks to create a sloping position which allows water to drain away from cavities.
	Insufficient rinse aid concentration causes staines	Increase quantity (see instructions)
	Machine with softener: Wrong type of salt used.	 Use only granular regeneration salt.

9. TROUBLESHOOTING GUIDE

9.2. OTHER FAULTS

TYPE OF FAILURES	POSSIBLE CAUSE	REMEDY
Glasses are totally or partially cloudy	Surface of glasses is rough and porous, this is called glass corrosion	This is not caused by a malfunction on the machine. Replace with new glasses.
Glass breakages.	Use of inappropriate dish or glass racks.	Use appropriate racks.

9.3. MALFUNCTIONS

TYPE OF FAILURES	POSSIBLE CAUSE	REMEDY
Machine suddenly stops during wash program.	Machine is connected to an energy management system which cuts out the energy consumer at a given point, or machine is interlocked with another energy consumer unit.	Connect machine separately (call electrician).
	Blown site fuse.	Check site fuses.
	Temperature probe rinse booster or tank defective.	Call the after sales service.
	Pressure transmitter rinse booster or tank defective.	Call the after sales service.
The four button LEDs flash.	Control defective.	Call the after sales service.

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